STOLTHAVEN TERMINAL

Bimonthly Report: March and April 2015

Lot 2 Steelworks Road, Mayfield 2304

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Stolthaven Terminals

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Noise Monitoring – Yearly (November 2014)

Day, evening and night-time noise emissions were predicted to each of the required assessment locations and compared against the site noise limits, in accordance with the requirements of the Project Approval. Noise emissions were assessed under worst case wind and temperature inversion conditions in two different operations scenarios on site as required by the Project Approval. The results of this assessment are provided in **Table 1** and **Table 2.**

Analysis of Results

Compliance has been found for the assessments during all scenarios at all receiver locations, except for the following:

1. Receiver 2 (2 Crebert St, Mayfield) for day, evening and night reasonable 'worst' case 15-minute intrusive scenarios.
2. Receiver 4 (21 Crebert St, Mayfield) for day, evening and night reasonable 'worst' case 15-minute intrusive scenarios.

It should be noted that these two locations are essentially the same location, and are separated by approximately 40m. For the two above locations where exceedances are predicted, it is noted that the key noise contributor is the operation of the motor/pumps, followed by the operations of the trucks on site. However, with regards to the exceedances the following points should be noted as these exceedances are manageable and not considered significant:

Noise impacts are significantly below the background noise level at the receiver locations

The background noise level (LA90 15 minute noise level) at receiver R2, which is across the road from R4 was 49 dB(A) at 1:21am. The worst case noise emission result from the Site at the two receivers is below this level at 41 dB(A). Calculations for the background noise level did not take into account temperature inversion conditions and so the background noise level at the two receivers could increase even further.

Noise emissions comply during neutral meteorological conditions

The compliance noise emission results presented in Table 1 and Table 2 show compliance is achieved at all receivers under neutral meteorological conditions.

Since construction operations began in 2012, no noise complaints have been received by Stolthaven.

Table 1: Worst case condition 1: Three trucks filling during 15 min period

Period	Day/ Evening/ Night								
Assessed Meteorological Condition	Neutral			3/ms source to receiver winder			Temperature inversion (F-Class, 3°C/100 m)		
Receiver	Predicted noise level, LAeq(15min), dB(A)	Criteria dB(A)	Compliance with noise criteria, dB(A)	Predicted noise level, LAeq(15 min), dB(A)	Criteria dB(A)	Compliance with noise criteria db(A)	Predicted noise level, LAeq(15 min), dB(A)	Criteria dB(A)	Compliance with noise criteria, db(A)
R1	26	35	Yes	31	35	Yes	30	35	Yes
R2	36	35	Yes	41	35	No (+6)	40	35	No (+5)
R3	28	35	Yes	32	35	Yes	32	35	Yes
R4	36	35	Yes	41	35	No (+6)	40	35	No (+5)
R5	20	35	Yes	26	35	Yes	25	35	Yes
R7	27	35	Yes	32	35	Yes	31	35	Yes
R8	27	35	Yes	31	35	Yes	31	35	Yes
R9	33	45	Yes	38	N/A	N/A	37	N/A	N/A
R10	18	35	Yes	24	35	Yes	24	35	Yes

Table 2: Worst case condition 2: One truck filling during the 15 minute period, two trucks arrive and two leave the facility

Period	Day/ Evening/ Night								
Assessed Meteorological Condition	Neutral			3/ms source to receiver winder			Temperature inversion (F-Class, 3°C/100 m)		
Receiver	Predicted noise level, LAeq(15min), dB(A)	Criteria dB(A)	Compliance with noise criteria, dB(A)	Predicted noise level, LAeq(15 min), dB(A)	Criteria dB(A)	Compliance with noise criteria db(A)	Predicted noise level, LAeq(15 min), dB(A)	Criteria dB(A)	Compliance with noise criteria, db(A)
R1	28	35	Yes	32	35	Yes	32	35	Yes
R2	34	35	Yes	39	35	No (+4)	38	35	No (+3)
R3	30	35	Yes	34	35	Yes	33	35	Yes
R4	34	35	Yes	39	35	No (+4)	38	35	No (+3)
R5	20	35	Yes	25	35	Yes	25	35	Yes
R7	29	35	Yes	33	35	Yes	32	35	Yes
R8	29	35	Yes	33	35	Yes	32	35	Yes
R9	33	35	Yes	38	N/A	N/A	37	N/A	N/A
R10	17	35	Yes	23	35	Yes	23	35	Yes

Ground Water Monitoring – Quarterly (February 2015)

Monitoring Well 1

		25/02/2014	23/05/2014	11/08/2014	7/11/2014	26/02/2015
MW01	pH	9.01	9.46	9.51	9.41	8.01
	BTEX					
	Benzene	< 1	< 1	< 1	< 1	< 1
	Ethylbenzene	< 2	< 2	< 2	< 2	< 2
	Toluene	< 2	< 2	< 2	< 2	< 2
	Xylene	< 2	< 2	< 2	< 2	< 2
	Total Recoverable Hydrocarbons					
	C6-C10	< 20	< 20	< 20	< 20	< 20
	C6-C10-BTEX	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction	< 100	< 100	< 100	< 100	< 100
	>C16-C34 Fraction	< 100	< 100	< 100	< 100	< 100
	>C34-C40 Fraction	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction - Naphthalene	< 100	< 100	< 100	< 100	< 100

The pH levels recorded at MW01 for this reporting period ranged from 9.01 to 9.79, remaining within background levels recorded at the site. Total Recoverable Hydrocarbons (TRH) concentrations were below Laboratory limits of reporting (LOR) at MW01 and were consistent with background levels established for the site. BTEX concentrations were also below the LOR at MW01 and while no statistically significant trend is apparent at this stage, it appears BTEX concentrations are stable below the LOR at MW01.

Monitoring Well 2

		25/02/2014	23/05/2014	11/08/2014	7/11/2014	26/02/2015
MW02	pH	7.73	7.76	7.91	7.85	7.73
	BTEX					
	Benzene	2	2	1	1	2
	Ethylbenzene	< 2	< 2	< 2	< 2	< 2
	Toluene	< 2	< 2	< 2	< 2	< 2
	Xylene	< 2	< 2	< 2	< 2	< 2
	Total Recoverable Hydrocarbons					
	C6-C10	< 20	< 20	< 20	< 20	< 20
	C6-C10-BTEX	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction	< 100	< 100	< 100	< 100	< 100
	>C16-C34 Fraction	< 100	< 100	< 100	< 100	< 100
	>C34-C40 Fraction	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction - Naphthalene	< 100	< 100	< 100	< 100	< 100

The pH levels recorded at MW02 for this reporting period ranged from 7.73 to 7.91 and were below background levels recorded at the site. TRH concentrations at MW02 were below the LOR for this GME and are typical of concentrations recorded during background monitoring. TRH fractions have not been recorded at MW02 since records began, apart from one recorded low concentration in the >C16-

C34 fraction (380µg/L) in October 2013. Overall, TRH concentrations appear to be stable at below LOR since October 2013.

A value of 1µg/L of Benzene was recorded at MW02 during the August and November sampling events while a value of 2µg/L was recorded during the February and May events. These results were slightly below or equal to the lower range of 2 to 5µg/L recorded during background monitoring.

Monitoring Well 3

		25/02/2014	23/05/2014	11/08/2014	7/11/2014	26/02/2015
MW03	pH	7.47	7.73	8.02	8.43	7.47
	BTEX					
	Benzene	< 1	< 1	< 1	< 1	< 1
	Ethylbenzene	< 2	< 2	< 2	< 2	< 2
	Toluene	< 2	< 2	< 2	< 2	< 2
	Xylene	< 2	< 2	< 2	< 2	< 2
	Total Recoverable Hydrocarbons					
	C6-C10	< 20	< 20	< 20	< 20	< 20
	C6-C10-BTEX	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction	< 100	< 100	< 100	< 100	< 100
	>C16-C34 Fraction	< 100	< 100	< 100	< 100	< 100
	>C34-C40 Fraction	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction - Naphthalene	< 100	< 100	< 100	< 100	< 100

The pH levels recorded at MW03 for this reporting period ranged from 7.47 to 8.43, with values above background levels recorded at the site. pH values at this location have increased steadily since records began. Total Recoverable Hydrocarbons (TRH) concentrations were below Laboratory limits of reporting (LOR) at MW03 and were consistent with background levels established for the site. TRH fractions have not been recorded at MW02 since records began, apart from one recorded low concentration in the >C16-C34 fraction (380µg/L) in October 2013. Overall, TRH concentrations appear to be stable at below LOR since October 2013.

Monitoring Well 4

		25/02/2014	23/05/2014	11/08/2014	7/11/2014	26/02/2015
MW04	pH	8.81	8.37	8.74	8.63	8.81
	BTEX					
	Benzene	< 1	< 1	< 1	< 1	< 1
	Ethylbenzene	< 2	< 2	< 2	< 2	< 2
	Toluene	< 2	< 2	< 2	< 2	< 2
	Xylene	< 2	< 2	< 2	< 2	< 2
	Total Recoverable Hydrocarbons					
	C6-C10	< 20	< 20	< 20	< 20	< 20
	C6-C10-BTEX	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction	< 100	< 100	< 100	< 100	< 100
	>C16-C34 Fraction	< 100	< 100	< 100	< 100	< 100
	>C34-C40 Fraction	< 100	< 100	< 100	< 100	< 100
	>C10-C16 Fraction - Naphthalene	< 100	< 100	< 100	< 100	< 100

The pH levels recorded at MW04 for this reporting period ranged 8.37 to 8.81, with values below background levels recorded at the site. pH at MW04 has decreased overall, showing a downward trend since monitoring began in October 2013. TRH concentrations were below the LOR at MW04 and were consistent with background levels established for the site. BTEX concentrations were also below the LOR at MW04 and while no statistically significant trend is apparent at this stage, it appears BTEX concentrations are stable below the LOR at MW04.

Summary

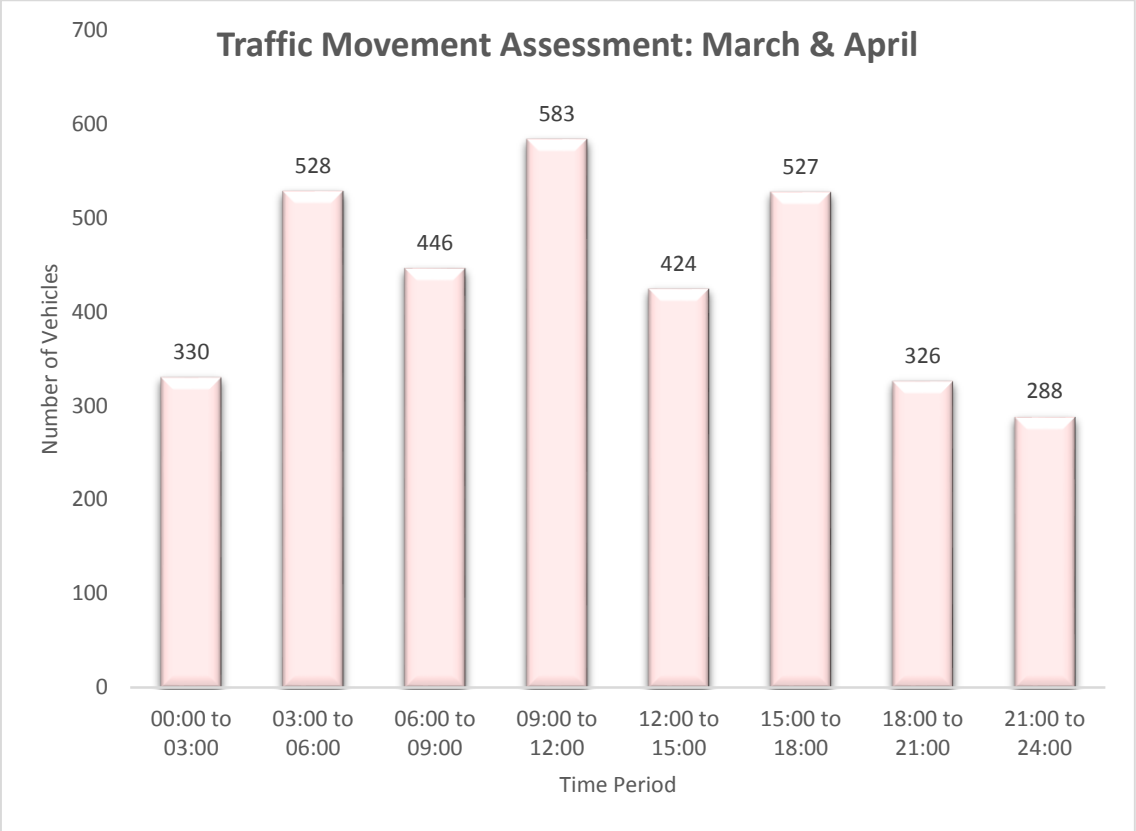
Where appropriate, statistical trend analysis was undertaken on individual analytes using an upper confidence level of 95% at selected monitoring well locations. Trend analysis recorded varying results due to the small number of data sets available at this stage of assessment. Trends in TRH and BTEX concentrations were largely non-calculable given the small dataset available for analysis and the high proportion of Non-Detect values in the data (caused by data points with results below LOR concentrations).

Some preliminary trends were identified for pH at MW03 and MW04, and Benzene at MW02. However given the small dataset these trends are not considered scientifically robust to make decisions on possible corrective actions at this stage of assessment.

Further data from future monitoring events will be required to give credence to the preliminary trends identified above. While statistically significant trends were not available for TRH and BTEX results at MW01 - MW04, it is noted that all results for these analytes are below the GAC for the Site and in most cases, below the LOR. These results are also consistent with historic TRH and BTEX data at the Site. All parameters analysed were compliant with GAC criteria.

Traffic Movement Assessment

The traffic movement assessment (TMA) is the collation of all transactions made at Stolthaven Newcastle. This is displayed in three-hourly intervals shown in the table below (Traffic Movement Assessment: March & April).



The data above indicates that there were 3,452 transactions that took place in months of March and April, which can be translated that approximately 6,904 truck movements. The peak loading periods have been isolated between the following time brackets: 0300 to 0600, 0900 to 1200 and 1500 to 1800.